

CLAIMS:

Having thus described the preferred embodiments, the invention is now claimed to be:

Amendments to the Claims:

1. (Currently Amended) ~~Device~~ [[(1)]] A device for the evacuation of a chamber to pressures in the high vacuum range, ~~consisting of~~ comprising:

an atmospheric pressure side vacuum pump;

5 ~~a suction-side vacuum pump~~ [[(2)]] ~~and an atmospheric pressure-side vacuum pump~~ [[(3)]] ~~the suction-side vacuum pump~~ [[(2)]] ~~is formed as a mechanical-kinetic vacuum pump with a rotor~~ [[(11)]] ~~and a stator~~ [[(10)]], ~~the stator~~ [[(10)]] ~~has~~ having a rotationally symmetric inner surface, which is ~~adapted~~ conforms to the an outer geometry of the rotor~~[[(11)]]~~, the rotor [[(11)]] of the mechanical-kinetic vacuum pump [[(2)]] ~~is provided with~~ having a structure [[(13)]] for effecting the gas conveyance from a suction side to a pressure side connected to the pressure side vacuum pump;

10 the structure for effecting the gas conveyance ~~consists of~~ includes webs [[(14)]] whose pitch and width decrease from the suction side to the pressure side~~[[(14)]]~~,
15 ~~the evacuation device~~ [[(1)]] ~~with the features above is characterized by the fact that~~ the an outer diameter of the rotor [[(11)]] and ~~the~~ an inner diameter of the stator [[(10)]] of the suction-side vacuum pump [[(2)]] also decrease from the suction side to the pressure side.

2. (Currently Amended) ~~Device~~ The device according to claim 1, ~~characterized in the fact that~~ wherein the rotor includes a hub [[(12)]] ~~is a component of the rotor~~ [[(11)]], said hub being ~~formed to be~~ cylindrical and ~~bearing~~ carrying the webs [[(14)]].

3. (Currently Amended) ~~Device~~ The device according to claim 1, ~~characterized in the fact that~~ wherein the rotor includes a hub [[(12)]] ~~is a component of the rotor~~ [[(11)]], said hub ~~bearing~~ carrying the webs [[(14)]] and being formed conically ~~essentially~~ in such a manner that its diameter increases from the suction side
5 to the pressure side.

4. (Currently Amended) ~~Device~~ The device according to ~~one of~~ claims claim 1 to ~~[[3]], characterized by the fact that the lines, which represent the form of wherein~~ the outer diameter of the rotor ~~[[11]] as well as and~~ the inner diameter of the stator ~~[[10]] in a longitudinal section through the suction-side vacuum pump [[2)], run in the form of a curve arched which arches~~ inwards in such a manner that ~~the a slope of the curves, in a coordinate system in which the axis of rotation [[15]] forms the x-axis, curve~~ decreases from the suction side to the pressure side.

5. (Currently Amended) ~~Device~~ The device according to ~~one of~~ claims claim 1 to ~~[[3]], characterized by the fact that the lines, which represent the form of wherein a surface defined by the rotor hub [[12]] in a longitudinal section through the suction-side vacuum pump [[2)], are arched arch~~ outwards in such a manner that ~~their the slope of the surface~~ decreases from the suction side to the pressure side.

6. (Currently Amended) ~~Device~~ The device according to claim 4 or ~~[[5]], characterized by the fact that wherein~~ the ~~arched lines have essentially the form of curve follows~~ a hyperbola.

7. (New) A mechanical-kinetic vacuum pump for evacuating a chamber connected at a suction side to a pressure less than 10^{-3} mbar, the mechanical-kinetic vacuum pump comprising:

5 a rotor including a central hub and webs extending outward from the hub in a helical pattern, an angle and width of which decreases from the suction side to a pressure side;

a stator having a rotationally-symmetrical inner surface which matches an outer geometry of the rotor webs, the outer rotor geometry and the stator inner surface decreasing in diameter from the suction side to the rotor side.

8. (New) The mechanical-kinetic vacuum pump according to claim 7, wherein an outer diameter of the hub increases from the suction side to the pressure side.